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Remarks

Claims 1—5 remain pending in the application. No amendments have been submitted with this response.

The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the remarks contained herein.

REJECTIONS UNDER 35 U.S.C. § 102

Claims 1—4 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Xu (U.S. Pat. No. 6,551,732). This rejection is respectfully traversed.

Xu teaches feeding a substantial portion of the cathode effluent stream to a fuel processor as the oxygen containing gas and water vapor for converting the fuel stream into hydrogen. While Xu discloses an air compressor upstream of the fuel cell cathode, there is no disclosure or suggestion of using fuel cell-produced heat to a) add heat to the cathode exhaust via a heat exchanger, and/or b) add heat correctly to the expansion turbine from the fuel cell itself.

Therefore, Xu does not teach “a heat exchanger coupled to the fuel cell for receiving waste heat of the fuel cell,” nor does Xu disclose that the “heat exchanger transfers heat energy from the fuel cell to cathode exhaust gas flowing through the cathode exhaust gas line,” as called in Applicants’ Claim 1. Claim 1 and its dependent Claims 2—4 are therefore believed to be in condition for allowance as being patentably distinguishable over reference to Xu.

Claims 1—5 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Cownden et al. (U.S. Pat. No. 6,316,134). The rejection is respectfully traversed.

Cownden et al. discloses a reformer, a fuel stream humidifier and a heat exchanger, all disposed within a furnace vessel associated with the fuel processing subsystem of a fuel cell system. Cownden et al. further discloses that the fuel processing subsystem may further comprise a shift reactor that exchanges heat for the cathode exhaust stream directed to the shift reactor

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from the power generation subsystem. After passing through the shift reactor, the cathode exhaust stream is preferably directed to the furnace burner. All of this deals with Cownden's fuel processing subsystem—not with an expander coupled to a compressor for the cathode input air pressurization. Cownden et al. does not teach or even suggest coupling heat from the fuel cell (not from the cathode exhaust stream) to add heat to the exhaust stream via a heat exchanger coupled for receipt of waste heat from the fuel cell as called for in Applicants' Claim 1. Claim 1 and its dependent Claims 2—5 are therefore believed to be patentably distinguishable over Cownden et al.

REJECTION UNDER 35 U.S.C. § 103

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Xu (U.S. Pat. No. 6,551,732) in view of Cownden et al. (U.S. Pat. No. 6,316,134). This rejection is respectfully traversed.

Without conceding the correctness of the Examiner's remarks with reference to Claim 5, Claim 5 depends directly from Claim 1 and is therefore believed to be in condition for allowance for the reasons set forth above with respect to Claim 1 in view of either cited reference.

CONCLUSION

Claims 1—5 as originally presented are believed to be in condition for allowance, early acknowledgment of which is requested.

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is


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respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, The Examiner is invited to telephone the undersigned at (248) 944-6519.

Respectfully submitted,

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